

30V/3-59-4-7/42

The School Waits for an All-Round Educated Teacher

emphasizes the importance of an additional training of teachers who are already working. He considers it expedient that for this purpose the institutes for the advanced training of teachers be incorporated into pedagogical institutes as separate departments similar to those for correspondence school-training. This will enable to establish efficient scientific training centers which could be used as a scientific pedagogical basis for the reorganization of the schools, and training and improving of the pedagogical personnel. In discussing the training of biology teachers the author mentions the Moskovskiy gosudarstvennyy pedagogicheskiy institut (Moscow State Pedagogical Institute).

ASSOCIATION: Akademiya pedagogicheskikh nauk RSFSR (RSFSR Academy of Pedagogical Sciences).

Card 3/3

KASHIN, Nikolay Vladimirovich; SUVOROV, N.P., red.; IVANOV, I.A.,
red.izd-va; YEZHNOVA, L.L., tekhn.red.

[Course in physics] Kurs fiziki. Pod red. N.P.Suvorova. Izd.4.
Moskva, Gos.izd-vo "Vysshiaia shkola." Vol.1. [Mechanics, molecular
physics, and thermodynamics] Mekhanika, molekul'arnaia fizika i
termodinamika. 1960. 461 p. (MIRA 14:3)
(Thermodynamics) (Mechanics) (Molecular theory)

S/076/034/009/006/022
B015/B056

AUTHOR:

Suvorov, N. P.

TITLE:

The Equation of State of Water

PERIODICAL:

Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 9,
pp. 1938-1946

TEXT: The equation of state for the liquid phase of ordinary water was derived by using the equation by K. A. Putilov (Ref. 15) for temperatures from 0°C up to the critical state. The following critical values were assumed: $p_k = 225.7 \text{ kg/cm}^2$, $t_k = 374.16^\circ\text{C}$, $v_k = 3.1975 \text{ cm}^3/\text{g}$. The virial coefficients A and B of the equation $RTv^3 - pv^4 = Av^2 - B$ (3) were calculated (Table 1), and it was found that the values of attractive and repulsive pressure (attractive and repulsive forces, respectively) pass through a maximum at about 40°C. Determinations of the coefficient of molecular pressure as a function of temperature in the van der Waals equation also showed that a maximum exists at 40°C, whereas in a non-associative liquid (isopentane) the values for A and B decrease monotonically

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The Equation of State of Water

S/076/60/034/009/006/022
B015/B056

with an increase of temperature. The anomalous change of the molecular pressure in water at 40°C is ascribed to the change in the molecular structure, and is described as the basis of all anomalies of water, which occur also at other temperatures. For the equation

$$p + A/v^{1.46} = RT/v - B/v^4 \quad (4) \quad (A = -10343 + 6483 \ln T - 43.31 T \\ - 7.286 \cdot 10^{15} T^{-5}, \quad B = -106295 + 24192 \ln T - 70.67 T - 3.034 \cdot 10^{15} T^{-5})$$

the values for A and B were determined up to a pressure of 12000 kg/cm², and it was found that the maximum of water density existing at 4°C is shifted toward lower temperatures with an increase of pressure. Calculations of the values of $\partial^2 v / \partial p \partial T$ at $p = 1$ kg/cm² for 30, 40, 50, and 60°C (Table 2) showed, in agreement with experimental results, that at 39.26°C a change of the sign of the derivatives of the coefficient of water expansion with respect to pressure (and also of the compressibility coefficient with respect to temperature) occurs. Owing to the lack of a caloric equation of state for water, the anomaly of specific heat, which passes through a minimum at 40°C at a constant pressure, cannot

Card 2/3

ZHDANOV, Leonid Sergeyevich; KHLERNIKOV, Nikolay Ivanovich; SUVOROV, N.P.,
red.; KUZNETSOVA, Ye.B., red.; PLAKSHE, L.Yu., tekhn. red.

[Course in physics for technical schools] Kurs fiziki dlja tekhnicheskich
kumov. Pod red. N.P.Suvorova. Izd.2. Pt. [Mechanics and molecular
physics] Mekhanika i molekuliarnaya fizika. 1961. 391 p.
(MIRA 14:6)

(Physics)

5.2430

32642
S/076/62/036/001/014/017
B119/B101

AUTHOR: Suvorov, N. P.

TITLE: Equation of state for heavy water

PERIODICAL: Zhurnal fizicheskoy khimii, v. 36, no. 1, 1962, 216 - 218

TEXT: In connection with a previous paper on the equation of state for ordinary water (Zh. fiz. khimii, 34, 1942, 1960), the equation of state for D₂O was derived: $\pi + \frac{\alpha}{\omega^4} = \frac{10t}{\omega} + \frac{\beta}{\omega^3}$ [Abstracter's note: The individual symbols are not explained in the original]. It is valid between 0°C and the critical state, and also holds for pressures of up to 12,000 kg/cm². The temperature at maximum density of D₂O at 1 atm was calculated by this equation to be 13.4°C (experimental value 11.6°C; error 0.6% related to the Kelvin scale). According to the calculations, the temperature at maximum density of D₂O is reduced with increasing pressure. Above 38.2°C, D₂O shows no anomalies: The derivative of the expansion coefficient with respect to the pressure at constant temperature is less than zero while the

Card 1/2

KASHIN, Nikolay Vladimirovich; SIYOROV, N.P., red.; IVANOV, I.A.,
red. izd-va; VORONINA, R.K., tekhn. red.

[Physics course] Kurs fiziki. 3. izd., perer. i dop. Mo-
skva, Vysshiaia shkola. Vol.2.[Electricity and magnetism;
oscillations and waves] Elektrичество и магнетизм; колебания
и волны. 1962. 642 p.

(MIRA 16:5)

(Physics)

SUVOROV, N.P., kand.fiz.-matem.nauk (Moskva)

Origin of noctilucent clouds. Priroda 53 no. 12:114 '64.
(MIRA 18:1)

SUVOROV, N.P., prof.; KHROMOV, S.P., prof.

Aleksei Fedos'evich Vangengeim, 1881-1942; organizer of the Hydrometeorological Service of the U.S.S.R. Meteor. i gidrol. no.6:44-45 Je '65.
(MIRA 18:5)

SUVOROV, N. S.

No. 37377--Metod mikroskopicheskogo issledovaniya zernoproductov i ego
primenenie pri kontrole mukomol'nogo proizvodstva. Trudy vsesoyuz. Nauch-
issled. In-ta zerna i produktov ego pererabotki, BYP. 19, 1949, s. 5-20--
Bibliogr: 8 nazv.

So: Letopis' Zhurnel'nykh Statey, Vol. 7, 1949.

5. G. V. 1954

The effect of the aleurone layer content of flour on its fat content. N. S. Suvorov. Soobshcheniya i Referaty Vsesoyuz. Nauch.-Issledovatel. Inst. Zerna i Produktov Zera. Perekrestki No. 1, 15-17; Referat Zhur. Khim. Biol. Khim. 1955, 1954, No. 1, 15-17; Referat Zhur. Khim. Biol. Khim. 1955, No. 10154.—The presence of aleuroleptic grains in the products of wheat milling raises the content of fat and mineral substances without affecting the color of the flour. A method for the detm. of the aleuroleptic layer is presented in which the specimen is preliminarily treated with I_2 vapor.

B. S. Levin et al.

SUVOROV, N.V., polkovnik

Use of a camera gun for reconnaissance. Vest.Vozd.Fl. no.9:
20-23 S'60. (MIRA 13:10)
(Aeronautics, Military--Observations)

SUVOROV, N.V., polkovnik

Tactical thinking of the flier. Vest.Vozd.Fl. no.11:61-64 N '60.
(MIRA 13:11)

(Aerial warfare)

3(2)

AUTHOR:

Suvorov, N. V.

SOV/6-59-4-11/2c

TITLE: Method of Determining the Water Productiveness of Springs
and the Capability of Wells of Being Filled up With Water
(Sposob opredeleniya debita vody u istochnikov i napolnyayemosti
vodoj kolcataev)

PERIODICAL: Geodeziya i kartografiya, 1959, Nr 4, p 37 (USSR)

ABSTRACT: In the new issue of the regulations for topographic survey
on scales of 1 : 10000 and 1 : 25000 it is demanded that in
arid and dry regions the water productiveness of springs and
the capability of wells of being filled up with water should
be indicated on the maps. It is not said, however, how these
should be determined. The author suggests the following proce-
dure: To determine the water productiveness of springs, a hole
should be dug in the place of the source and a bucket put in
it. The vessel should be as big as to collect the whole water
emerging. The time in which the vessel is filled is measured
by a watch. To avoid errors, the average value of 3 such
measurements should be taken. The water productiveness is then
computed as follows: The vessel holding 9 liters is filled

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SOV/6-59-4-11/20

Method of Determining the Water Productiveness of Springs and the Capability of Wells of Being Filled up With Water

in 6 minutes; the productiveness in liters per hour =

9 liters . 60 minutes = 90 liters/hour. The capability of

the well of being filled up with water, in liters per hour, is determined as follows: The water level is marked and the deepness of the well is measured. The well is emptied either completely or in part. In the latter case, the new level is marked again. The diameter of the well, and the distance between the levels before and after emptying are measured. The time in which the well fills up to the upper mark is measured. The volume filled with water is determined and divided by the time measured. Thus, the capability of filling-up in liters per hour is obtained.

Card 2/2

SUVOROV, N.Ya.

What should be the design of a glass furnace? Stek.i ker. 13 no.1:
20-24 Ja '56. (MLRA 9:3)

1. Kurlovskiy stekol'nyy zavod.
(Glass manufacture)

SUVOROV, P.

My experience in working with a mechanical pick. Mast.ugl. 3 no.5:
9-10 My '54.
(MLRA 7:6)

1. Zaboyshchik shakhty "Komsomolets" kombinata Stalinugol'.
(Coal-mining machinery)

SUVOROV, P.

Device for mechanical repair of footwear by the sandal method
Prom.koop. no.6:27 Je'55. (MIRA 8:11)

1. Mashinist leningradkoy arteli "Obuvshchik"
(Shoe machinery)

SUVOROV, P. A.

Suvorov, P. A. - "An investigation of the toxic properties of the combined antiseptics 'smolochrom' (chrome tar) and 'smoloftor' (fluorine tar)", (For the impregnation of cross-ties), Uchen. zapiski Gor'k. gos. un-ta, Issue 14, 1949, p. 161-67, - Bibliog: 9 items.

SO: U-4631, 16 Sept. 55 (Letopis 'Zhurnal 'nykh Statey, No 24, 1949).

SUVOROV, P. A.

Suvorov, P. A. - "A study of some of the physiologic properties of the scaly mushroom *Lentinus Souamcicus Schrcet.* in various climatic zones of the USSR", Uchen. zapiski Ger'k. ges. un-ta, Issue 1^h, 1940 p. 169-76.

SO: U-4631, 16 Sept. 53, (Letopis 'Zhurnal Vsesoyuznykh Statey, No. 2^h, 1949).

SUVOROV, P.A.

Growth rate in some sheetlike and bushy lichens. Biul. MOIP.
Otd. biol. 66 no.1:110-126 Ja-F '61. (MIRA 14:3)
(CHERNUKHA DISTRICT—LICHENS)
(GROWTH (PLANTS))

SUVORAV, P.A.

Biology of *Laetiporus sulphureus* (Bull.) Bond. et Sing.
Biul. MOIP. Otd. biol. 68 no.5:66-77 S-0 '63. (MIRA 16:10)

SUVOROV, P.D.

Eliminating obstructions in outside sewage systems and inside
pipelines with the aid of a flexible wire.
19 Ja '57.

(Pipelines)

Vod.i sanatkh.no.1:18-
(MLRA 10:3)

SUVOROV, I.G.

SUVOROV, V.A.; V. PAVLENKO, N.P.; V. GULI, L.P.; V. GULI, N.P.; A. M. KARLOV, V.S.;
~~BOZHITSYLO, S.K.~~; KAZHEKOVA, T.V.; CHIKHACHOVA, T.I.; FEDOROV, O.Y.;
IVANOVA, Z.P.; BULGARINA, N.S.

Central provinces of the Russian Platform. Trudy VNIGRI no.101:171-248
'57.

(Russian Platform--Geology)

SUVOROV, P.G.

Evaluation of oil and gas potentials of Paleozoic sediments in
central provinces of the Russian Platform. Trudy VNIGRI no.111:
63-119 '57. (MIRA 11:6)

(Russian Platform—Petroleum geology)
(Russian Platform—Gas, Natural—Geology)

3(5)

PLATE I. BOOK EXHIBITION

Sov/2284

Moscow, Vsesoyuznyj nauchno-issledovatel'skij geologo-ravvedochnyy
naučnyj institut

*Perspektivy nafto-gazogenesosti i raspravljenije geologoravvedochnykh
oblastej severo-vostočnoj russkoj ravničnoj Uralo-Volžskoj neftegazogennosti
Kazan' (Oil and gas-bearing regions of the North-Eastern Urals-Volga-Neftegazogenost'
development Possibilities and the Direction of
oil geological Exploration in the Northeastern Regions of the Volga-
Urals Petroleum Region. Session of the Scientific Council of
the All-Union Petroleum Research Institute of Geological Research
Exploration Held at Kazan; December 1956) Moscow, Institute for Geologi-
cal Exploration, 1956. 257 p. Errata slip inserted. 1,000 copies
printed.*

Additional Sponsoring Agency: USSR- Ministerstvo geologii i ohnarystv
nadr.

Ed.: A.I. Klebober, Candidate of Geological and Mineralogical Sci-
ences; Executive Ed.: P.R. Yarzhev; Tech. Ed.: Z.A. Moshina.

PURPOSE—This book is intended for petroleum geologists.

COVERAGE: This collection of articles is the result of a field
session held in Kazan, in December 1956 by the scientific council
of the All-Union Petroleum Research Institute for Geo-
logical Exploration. The session was attended by members of the geo-
logical services of the various petroleum research and industrial
institutions of Kazan', Bulgar'ia, Ufa, Perm', Kupino, etc. The
council discussed the prospects and possibilities of oil and gas pro-
duction in the northeastern part of the Volga-Ural oil-bearing
district, its current problems in geological surveying and ex-
ploration, and plans for future drilling. All reports, presenta-
tions, replies to queries, the resolutions and recommendations made
by the council, and the chairman's concluding remarks, are re-
produced in the collection. The articles are accompanied by
diagrams and tables. No references are given.

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SOV/2284

Oil-and Gas-bearing Possibilities (Cont.)

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5

SUVOROV, P.G.

SUVOROV, P.G.

Drilling key wells for studying deep structure of the Russian
Platform. Geol. nefti 2 no.2:17-26 F '58. (MIRA 11:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut geologo-razvedo-
chnyy neftyanoy institut.

(Russian Platform--Geology) (Boring)

NECHITAYLO, S.K.; SUVOROV, P.G.; KHOKHLOV, P.S.

Basic geological characteristics, and oil and gas potentials of
the central parts of the Russian Platform. Trudy VNIGNI no.10:142-
157 '58. (MIRA 14:5)

(Russian Platform -Petroleum geology)

(Russian Platform -Gas, Natural--Geology)

SUVOROV, P.

Out-of-town session of the Scientific Council of the All-Union
Petroleum Research Institute for Geological Surveying in Perm.
Geol. nefti i gaza 4 no. 3:60-63 Mr '60. (MIRA 13:12)
(Perm Province--Petroleum geology)
(Kama Valley--Petroleum geology)

GOROSHKOVA, V.A.; IVANOVA, Z.P.; MELIKOVA, I.M.; RYZHOVA, A.A.; SUVOROV,
P.G.; TUNYAK, A.P., kurator; SHABAYEVA, Ye.V.

Oparino key well. Trudy VHIGNI no.26:5-64 '60. (MIRA 14:1)
(Russian Platform--Petroleum geology)

SIVKOV, P.I., Candidate Sci-(Phys) "Effect of radial accelerations
upon certain function of the digestive system. (Experimental study)."
Leningrad, 1951. 16 pp (Min of Health USSR. Central Inst for th Advnced
Training of Physicians), 200 copies (11,45-51, 153)

- 159 -

SUVOROV, P.M.

Effect of radial acceleration on secretory and motor function
of the human stomach [with summary in English]. Biul.eksp.biol.
i med. 45 no.5:14-16 My '58 (MIRA 11:6)

1. Iz TSentral'nogo instituta usovershenstvovaniya vrachey,
Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR V.N.
Chernigovskim.

(ACCELERATION, effects
on stomach motor & secretory funct. (Rus))

(STOMACH, physiology,
motor & secretory funct., eff. of acceleration (Rus))

SUVOROV, P.M.

Effect of radial acceleration on salivary and gastric gland secretion and on periodic gastric contractions [with summary in English]. Biul.eksp.biol. i med. 46 no.9:28-34 S'58 (MIRA 11:11)

1. Iz TSentral'nogo instituta usovershenstvovaniya vrachey (zav. V.P. Lebedeva). Moskva. Predstavlena deystvitel'nym chlenom. AMN SSSR V.N. Chernigovskim.

(ACCELERATION, effects

gastric & perotid secretion & gastric contractions in dogs exposed to radial acceleration (Rus))

(GASTRIC JUICE,

secretion, eff. of radial acceleration in dogs (Rus))

(PAROTID GLANDS, physiology,

eff. of radial acceleration on secretional in dogs (Rus))

(STOMACH, physiology,

contractions, eff. of radial acceleration in dogs (Rus))

SUVOROV, P.M., kapitan meditsinskoy sluzhby

Effect of radial acceleration on salivary function. Voen.-med.
zhur. no.7:76-77 J1 '59. (MIRA 12:11)
(ACCELERATION--PHYSIOLOGICAL EFFECT)
(SALIVARY GLANDS)

ROSIN, Ya.A., prof.; MIKHAYLOVSKIY, G.P., kand.med.nauk, podpolkovnik meditsinskoy sluzhby; SUWOROV, P.M., kand.med.nauk, kapitan meditsinskoy sluzhby

Effect of radial acceleration on flying personnel with neurocirculatory dystonia of the hypertensive type. Voen.-med.zhur. no.8:58-62 Ag '59.
(MIRA 12:12)

(ACCELERATION effects)
(NEUROCIRCULATORY ASTHENIA physiol.)

274000

26464
S/177/60/000/008/001/002
D264/D304

AUTHORS: Suvorov, P.M., Captain of Medical Services, Candidate of Medical Sciences, Papkov, M.G., Lieutenant- Colonel of Medical Services

TITLE: Centrifuge tests on flying personnel with functional CNS disturbances.

PERIODICAL: Voyenno- meditsinskiy zhurnal, no. 8, 1960, 73- 76

TEXT: The authors wished to study the effect of radial acceleration on personnel with functional CNS disturbances, but fit for flying duty. They state this to be the first investigation. The experiments were done on a 3.6 m radius centrifuge with 3, 4, 5, 6 and 7 g cranio- caudal accelerations, duration 30- seconds, at 5 minute intervals, allowing full recovery between tests. 40 fighter personnel took part, of whom 20 were healthy (controls) and 20 had functional CNS disturbances of less than a year's standing: the latter divided into two groups, those with asthenia and marked autonomic and vascular instability (15) and those with neurotic reactions and slight autonomic and vascular instability. Complete clinical examinations

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26464
S/177/60/000/008/001/002
D264/D304

Centrifuge tests on flying personnel...

investigation of the ability of personnel to withstand radial acceleration and hence their more accurate medical assessment.

SUBMITTED: February , 1960

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SUVOROV, P.M. (Moskva)

Influence of radial acceleration on the secretion of the
intestinal glands in dogs. Biul. eksp. biol. i med. 49 no. 6:54-
57 Je '60.

(MIRA 13:8)

1. Nauchnyy rukovoditel' I.M. Khazen. Predstavlena deystv.
chlenom AMN SSSR V.V. Parinym.
(INTESTINES)

S/865/62/002/000/025/042
D405/D301

AUTHORS: Kotovskaya, A.R., Lobashkov, S.I., Simpura, S.F.,
Suvorov, P.V. and Khlebnikov, G.F.

TITLE: Effect of prolonged transverse accelerations on
human organism

SOURCE: Problemy kosmicheskoy biologii. v. 2. Ed. by N. Sisalyan and V. Yazdovskiy. Moscow, Izd-vo AN SSSR, 1962.
238-245

TEXT: The investigation had the following main objects:
to study the effect of prolonged transverse accelerations on the
principal physiological functions of the organism; to determine the
limits of endurance of acceleration; the selection of the optimal
position of the human body during acceleration; the development of
methods of training and selection for astronauts. Experimental meth-
od: A group of specially selected healthy persons aged 25-30 was
subjected to centifuge tests. The response to accelerations of 7,
9, 10 and 12 g was investigated. The indicators of the following

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Effect of prolonged ...

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D405/D301

basic physiological functions were recorded: electrocardiograms; arterial pressure; pulse and respiration rate; lung ventilation and gas exchange; electroencephalograms; electromyograms of thorax and peritoneal muscles; the duration of the latent period of motor response to light signals; the penetrability of cutaneous capillaries. Results: The subjects could sustain accelerations of 7-12 g for a period of 3 minutes to 30 seconds respectively. The external respiration underwent marked changes; the subjects experienced difficulties in breathing. The number of cardiac contractions increased. The arterial pressure also increased. Some regular changes in the bioelectric activity of the brain were noted; these changes can be divided into 3 main stages. The latent period of response to light signals increased to 0.8-0.9 seconds. The acuity of sight decreased in the majority of subjects by 20-30%. The bioelectric activity of the investigated muscles increased. All these physiological changes reverted to normal 3-5 minutes after the acceleration ceased. An analysis of the obtained material showed that the changes in the physiological functions are within tolerable limits, being determined by the magnitude and duration of the overload. Cutaneous hemorrhages

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D405/D301

were observed in most of the subjects after the acceleration ceased. The optimal position of the body was found to be a 10° inclination of the back of the chair with respect to the horizontal. The experiments made it possible to divide the subjects into 3 groups with regard to endurance: those with high endurance, satisfactory endurance, and low endurance. The obtained results were used in developing a special training program for the astronauts Yu. A. Gagarin and G.S. Titov. There are 2 figures and 4 tables.

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ACCESSION NR: AT4037701

in the EEG. The first phase was characterized by a gradual increase of the beta rhythm. The alpha rhythm and the slow waves changed very little in comparison with the initial conditions. This type of change appears at 3 to 4 g in longitudinal accelerations and at 5 to 8 g in transverse accelerations. The second phase of changes in bioelectrical activity of the brain, characterized by an increase in the synchronization of the alpha rhythm, appears when longitudinal accelerations reach 5 to 7 g and when transverse accelerations reach 8 to 10 g. If accelerations are increased still further, the alpha rhythm weakens and gradually disappears altogether, being followed first by theta and later by delta waves. If the action of acceleration under these conditions is extended in time, the result is loss of consciousness accompanied by a complete absence of bioelectric activity. In order to clarify the mechanism of these phase changes, a second series of experiments was conducted on ten rabbits. In this case, electrodes were introduced into the reticular formation of the mid-brain, the hypothalamus, and the sensory motor region of the cortex. The rabbits were then subjected to transverse accelerations of 3, 5, and 7 g. Synchronization of bioelectrical activity was observed, appearing first in traces of biocurrents of the reticular formation, then of the hypothalamus, and finally in the brain cortex. When the animals were subjected to longer acceleration stress (7 g for 10 sec), bioelectric activity

Card 2/3

ZHIVOV, P.M., mayor meditsinskoy sluzhby, kand. med. nauk; PAPKOV, M.G.,
podpolkovnik meditsinskoy sluzhby; MIKHAYLOV, A.F., kapitan
meditsinskoy sluzhby;

Endurance of positive radial acceleration by pilots with manifestations
of vascular-autonomic instability. Voen. med. zhur. no. 2:66-70 '63.
(MIRA 17:9)

FISHELEVICH, M.; SOKOLOVA, L.M.; TROKHIN, V.K.;
G.V.; BORISOVICH, Yu.F.; OVSYANOV, N.I.;
SHUBIN, V.A.; CHIZHOV, A.

IVASHCHENKO, S.A.; VASIL'KOV,
AMINOV, S.A.; SUVOROV, P.S.;

Information and brief news. Veterinariia 41 no.3:118-126 Mr '64.
(MIRA 18:1)

SUVOROV, P.S.

Use of chlorophos powder in scabies. Veterinariia 41 no.1;
90-91 Ja '65. (MIRA 18;2)

1. Zaveduyushchij parazitologicheskim otdelom Buryatskoy
respublikanskoy nauchno=proizvodstvennoy veterinarnoy laboratorii.

L 12060-56 ACC NR: AP6001308	EWP(e)/EWT(m)/T/EWP(r)/EWP(b) 44	IJP(c) 44	JD/WH 44
SOURCE CODE: UR/0363/65/001/008/1403/1409			
AUTHOR: Klyucharov, Ya. V.; Suvorov, S. A.			
ORG: Leningrad Technological Institute im. Lensoviet (Leningradskiy tekhnologicheskiy institut)			
TITLE: Formation and technical properties of solid solutions in the MgO-Al ₂ O ₃ -Cr ₂ O ₃ system			
SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 8, 1965, 1403-1409			
TOPIC TAGS: magnesium oxide, aluminum oxide, chromium oxide, refractory compound, solid mechanical property, solid solution			
ABSTRACT: The process of binding of magnesium oxide and the formation of solid solutions in the MgO-Al ₂ O ₃ -Cr ₂ O ₃ system were studied by phase chemical, x-ray diffraction, and microscopic analyses. Three compositions Mg(Al _{1-x} Cr _x) ₂ O ₄ , where x = 0.2, 0.5, and 0.8, obtained from pressed and sintered oxide powder mixtures, were investigated. The following sequence of formation of solid solutions is proposed: the two spinels MgAl ₂ O ₄ and MgCr ₂ O ₄ are formed first, then solid solutions arise at the site of their contact. No solid solutions of Cr ₂ O ₃ and Al ₂ O ₃ were observed. The formation of solid solutions ends at 1400C. Thus, chromic oxide is apparently a good mineralizer in the low-temperature synthesis of MgAl ₂ O ₄ . The phase transformations studied appreciably affect the technical properties of the products. Thus, solid solutions of the high-alumina region of the MgO-Al ₂ O ₃ -Cr ₂ O ₃ system have a high mechanical strength and sinter well. This should be considered in selecting processes			
Card	1/2	UDC: 546.621'46'76	58 57 15.44

L 12060-66

ACC NR: AP6001308

for manufacturing spinel-periclase refractories. Orig. art. has: 4 figures and 3 tables.

SUB CODE: 07, 11 / SUBM DATE: 03Mar65 / ORIG REF: 007 / OTH REF: 005

OC

Card 2/2

SUVOROV, S. G. (Editor), AKHIEZER, S. N. (Tech. Editor), DRABNIKA, S. I., MARKOV, M. A.
SOKOLOV, A. A. and FEYNBERG, Ye. A.

D. I. Blokhintsev, "Fundamentals of Quantum Mechanics", Osnovy
Kvantovoy Mekhaniki, State Press for Technical-Theoretical Literature.

Table of Contents W-17671, 5 Apr 1951

SUVOROV, S. G.

USSR/Physics - Matter, Physical Aug 51

"Concerning the So-Called Physical Concept of Matter," S. G. Suvorov

"Uspekhi Fiz Nauk" Vol XLIV, No 4, pp 485-510

In Soviet literature devoted to the philosophical works of V. I. Lenin, one often meets the pronouncement that seems to make Lenin separate the philosophical concept of matter from its phys concept; namely, that Lenin has introduced

192T98

USSR/Physics - Matter, Physical (contd) Aug 51

2 concepts of matter. Suvorov's purpose is to show Lenin could not have had 2 concepts of matter, that this "twin concept" is farfetched, and that this is harmful to the Marxist reorganization of natural science, especially physics.

PA 192T98

192T98

SUVOROV, S.Q.

[What light tells about] O chem ranskazyvaet svet. Moskva, Voen.izd-vo,
1952. 117 p.
(MLRA 6:8)
(Light)

1. SUVOROV, S. G.
2. USSR (600)
4. Matter
7. Law of interconnection between mass and energy. Usp fiz nauk No 2 1952

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

SUVOROV, S. G.

SUVOROV, S.G.; SLOBODSKOY, B.I., redakter.

[What the ray of light tells us] O chem govorit luch sveta. Izd.
3-e. Moskva, Gos. izd-vo tekhnike-teoreticheskoi lit-ry, 1953. 62 p.
(Nauchno-populiarnaia biblioteka, no.35) (MIRA 7:7)
(Light)

PA 254T110

SUVOROV, S. G.

Jan 53

USSR/Physics - Philosophy

"Once More on the Question of the So-Called Physical Concept of Matter (Reply to V. G. Fridman)," S. G. Suvorov

Usp Fiz Nauk, Vol 49, No 1, pp 125-146

Answers a letter by V. G. Fridman (Usp Fiz Nauk, 48, 623-625), which expressed an anti-Marxist concept of duality of matter. Argues on real meaning of Lenin's ideas (V. I. Lenin, Works, Vol 14) and believes that duality of matter is an anti-Marxist approach.

254T110

EINSTEIN, Alfred; INFELD, Leopold; SUVOROV, S.G. [translator]; LASHKOVSEV, V.A.,
redaktor; LIVSHITS, B.L., redaktor; TUMARKINA, N.A. tehnicheskiy redaktor
redaktor; LIVSHITS, B.L., redaktor; TUMARKINA, N.A. tehnicheskiy redaktor

[The evolution of physics; the growth of ideas from early
concepts to relativity and quanta. Translated from the English]
Evoliutsiya fiziki; razvitiye idei ot pervonachal'nykh poniatii
do teorii otnositel'nosti i kvant. Perevod s angliiskogo so
vstup. stat'sei S.G. Suvorova. Izd. 2-oe. Moskva, Gos. izd-vo
tekhniko-teoret. lit-ry, 1956. 279 p.
(MLRA 10:4)

(Physics--History) (Relativity (Physics))
(Quantum theory)

SUVOROV, S.G.

SUVOROV, S.G. [translator]

Physical reality from "Physics in my generation" by Max Born.
Translated from the English by S.G. Suvorov. Usp.fiz.nauk
(MLRA 10:7)
62 no.2:129-139 Je '57.
(Physics--Philosophy)

SUVOV, S.G.

53-2-5/9

AUTHOR

SUVOROV, S.G.
The Problem of "Physical Reality" in the Copenhagen School
(Problema "Fizicheskoy real'nosti" v Kopengagenskoy shkole. Russian)
(Problema "Fizicheskoy real'nosti" v Kopengagenskoy shkole. Russian)
Uspekhi Fiz. Nauk, 1957, Vol 62, Nr 2, pp 141 - 158 (U.S.S.R.)

TITLE

PERIODICAL

ABSTRACT

According to the author's opinion, Born's philosophical article "Physical Reality" (Max Born, Physics in my Generation, Pergamon Press, London-New York, 1956) deserves close attention and interest, because he deals with this problem from a point of view which is unusual for the Copenhagen school. In the Copenhagen school of physics the positivistic interpretation of "Physical Reality" was widely developed. This was due to the very abstract character of modern conceptions of the object of physical investigations. According to I.V. LENIN idealism can be considered as nonsense only from the point of view of metaphysical materialism. According to HEISENBERG transition from experimental results to the microparticle as an object meets with unsurmountable difficulties. A situation that is independent of measurements is looked upon by the Copenhagen school as being without any practical or theoretical significance. According to the (materialistic) opinion of the author S.G. SUVOROV, atoms and elementary particles are, however, to be looked upon not only as mathematical symbols, but according to SUVOROV atoms and elementary particles must be considered to be real and existing, though not in the naive or trivial sense. Further, SUVOROV considers physical

Card 1/2

24(0), 30(9)

AUTHOR: Suvorov, S.

SOV/53-66-3-2/7

TITLE: On the Role of Experiment and Theory in Knowledge
(O roli eksperimenta i teorii v poznani) On the Article
by Max Born (k stat'ye Maksa Borna)

PERIODICAL: Uspekhi fizicheskikh nauk, 1958, Vol 66, Nr 3, pp 375-390(USSR)

ABSTRACT: The author of the present paper translated the article by Born, which was published in the same periodical (pp 353-374) from the English language. He comments upon the article in which he deals with Born's personal qualities, his scientific work seen mainly from the philosophical point of view, as well as with the opinions expressed by several other of the world's leading scientists with respect to the theme the lecture dealt with (Born, 1943, Newcastle on Tyne). There are 18 references, 3 of which are Soviet.

Card 1/1

SUVOROV, S.G.

On the philosophic views of Max Born. Usp.fiz.nauk 78 no.4:699-
700 D 1962.
(Born, Max, 1882-)

SUVOROV, S.G.; KADER, Ya.M., red.; SOKOLOVA, G.F., tekhn. red.

[What does light tell us] O chem rasskazyvaet svet. Izd.2.,
perer. i dop. Moskva, Voenizdat, 1963. 140 p.

(MIRA 16:12)

(Light)

SUVOROV, S.G.

Einstein's philosophical outlook and its interrelation with his physical views. Usp. fiz. nauk 86 no.3:537-584 Jl '65. (MIRA 18:7)

SUVOROV, S. S.

Suvorov, S. S. - "The power and speed of an asynchronous motor for rolling machinery",
Trudy Vsesoyuz. nauch.-issled. in-ta zerna i produktov ego pererabotki, Issue 18,
1949, p. 34-55.

SO: U-4110, 17 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 19, 1949).

SUVOROV, S. S.

Suvorov, S. S. - "Individual automatized electric power supply for rolling machinery", Trudy Vsesoyuz. nauch.-issled. in-ta zerna i produktov ego pererabotki, Issue 18, 1949, p. 76-84.

SO: U-4110, 17 July 53, (letopis 'Zhurnal 'nykh Statey, No. 19, 1949).

SUVOROV, S.S., kandidat sel'skokhoziaistvennykh nauk.

Automatizing processes at storage and procurement centers. Mekh.trud.rab.
7 no.5:50-51 My '53.
(MLRA 6:5)
(Grain--Storage)

SUVOROV, S.

SUVOROV, S., kandidat sel'skokhozyaystvennykh nauk.

Automatic regulation of the operation of roller mills. Muk.-
elev.prom. 20 no.12:15-18 D '54. (MLRA 8:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i
produktov ego pererabotki.
(Grain milling machinery)

SUVOROV, S.

SUVOROV, S., kandidat sel'skokhozyaystvennykh nauk.

Outlook for using high-frequency currents in the storage and
processing of grain. Muk.-elev.prom. 21 no.2:9-10 F '55.
(MLRA 8:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut pishchevoy
promyshlennosti.
(Grain) (Electricity in agriculture)

SUVOROV,S., kandidat sel'skokhozyaystvennykh nauk.

Development of an improved model of the VP-4 moisture meter.
Muk.-elev.prom.21 no.6:8-11 Je'55.
(MIRA 8:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i produktov yego pererabotki.
(Grain--Testing) (Electric apparatus and appliances)

SUVOROV S.

GOL'DE, F., inzhener; SUVOROV, S., kand. sel'skokhoz. nauk.

Electric hydrometer for grain of high moisture content. Muk.-elev.
prom. 23 no.2:10-12 F '57. (MIRA 10:5)

1. Kiyevskiy zavod elektronicheskikh priborov (for Gol'de) 2. Vsesoyuznyy
nauchno-issledovatel'skiy institut zerna i produktov ego
pererabotki (for Suvorov).
(Grain--Analysis) (Hydrometer)

SUVOROV, S., kand. sel'skokhoz. nauk

VZ-2M hydrometer. Muk.-elev. prom. 25 no.11:30-31 N '59 (MIRA 13:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i produktov
yego pererabotki.
(Hydrometer)

SUVOROV, S., kand.sel'skokhozyaystvennykh nauk

Economizing on electric power. Muk.-elev. prom. 26 no. 11:20
N '60. (MIRA 13:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i
produktov yego pererabotki.
(Grain-handling machinery)

SUVOROV, S., kand.sel'skokhoz.nauk; SOLODENIKOV, L., inzh.

Study and calibration of the DVK-3 grain temperature regulating system. Muk.-elev. prom. 27 no.9:24-27 S '61. (MIRA 15:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i produktov yego pererabotki.
(Granaries--Heating and ventilation)

SUVOROV, S. V.

"The problem of helminthoses in the Far East."

report submitted at the 13th All-Union Congress of Hygienists, Epidemiologists and Infectionists, 1959.

SOV/124-58-5-4958

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 5, p 4 (USSR)

AUTHOR: Suvorov, S.V.

TITLE: On the Motion of a Point Along Revolving Trajectories (K vo-prosu dvizheniya tochki po vrashchayushchimsya trayektoriyam)

PERIODICAL: Fiz.-matem. sb. tr. Ivanovsk. energ. in-ta, 1956, Nr 2, pp 156-163

ABSTRACT: The author shows that increasing any central force by a quantity inversely proportional to the cube of the distance will cause a mass point to describe, on a plane revolving around the center of forces, the same trajectory which it describes on a stationary plane under the influence of the original force--- provided that the moving plane's angular velocity of revolution is proportional to the angular velocity of the relative motion, and the starting conditions are selected as functions of the force increment and of the starting conditions of the relative motion.

G.K. Pozharitskiy

Card 1/1

1. Dynamics--Theory 2. Mathematics--Applications

GAYDAY, A.I., kand.tekhn.nauk, dotsent; SUVOROV, S.V., starshiy
prepcdavatel'

Kinematic analysis of the process of binding electric wires.
Izv. vys. ucheb. zav.; mashinostr. no.6867-74 '61.
(MIRA 14:7)

1. Ivanovskiy energeticheskiy institut.
(Braid)

L 1684-66

ACCESSION NR: AP5017631

UR/0240/65/000/007/0068/0069
613.155.3:546.719

AUTHOR: Suvorov, S. V.

TITLE: A method for determining rhenium oxides from aerosol condensations

32
B

SOURCE: Gigiyena i sanitariya, no. 7, 1965, 68-69

TOPIC TAGS: rhenium compound, aerosol, chemical detection, colorimetry, potassium compound, tungsten, molybdenum

ABSTRACT: Since airborne particles of rhenium compounds derived from manufacturing processes may be harmful to the organism, a method applicable to their detection was sought. A colorimetric method is presented for determining rhenium with dimethylgloxime in the presence of tungsten and molybdenum. The preparation of a standard scale is described, using aqueous potassium perrhenate with a 0.01-0.1 mg content of the metal. A 1% dimethylgloxime alcoholic solution and SnCl in HCl are added to both the standard and the samples. To obtain rhenium from the air, the air flow rate through filter paper should be 10 l/min. Certain brands of paper are recommended. With

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ACCESSION NR: AP5017631

APPROVED FOR RELEASE 03/14/2000
this method both rhenium dust and mist can be determined (accuracy over 99%). Orig. art. has: Read. CIA-RDP86-00513R001654020012-0

ASSOCIATION: Kafedra gigiyeny truda I Moskovskogo ordena Leningradskogo meditsinskogo instituta im. I. M. Sechenova (Department of Labor Hygiene of the First Moscow Lenin Order Medical Institute)

SUB CODE: GC, IS

SUBMITTED: 08Feb64 ENCL: 00

OTHER: 000

NR. REF Sov: 003

Card 2/2

SUVOROV, V.

Capron instead of metal. Za rul. 17 no. 7:4 J1 '59.
(MIRA 13:1)

1. Glavnnyy konstruktor L'vovskogo velozavoda.
(Nylon)

YUSIN, A., radiotelegrafist 1-го класса, рядовой; SUVOROV, V., radiotelegrafist 2-го класса, юнкер

Training radio operators for work in existing networks. Vest.prctivovozd.
obor. no.1:26 Ja '61. (MIA 14:2)

(Radiotelegraph)

SIWAKOV, V.

Competitions in transmitting radiotelegrams. Radio no.9:7
S '61. (MIL. 14:10)

1. Vneshstatnyj borzoy viden zhurnala "Radio".
(Radiotelegraph—Competitions)

SUVOROV, V.

Bicycles with motors manufactured in Lvov (to be continued).
Za rul. 18 no.7:24-25 Jl '60. (MIRA 13:10)

1. Glavnnyy konstruktor L'vovskogo velozavoda.
(Lvov--Motorcycles)

SUVOROV, V. nauchnyy sotrudnik

Machines and tractors of a collective flax farm. Nauka i pered.
op. v sel'khoz. 8 no.8:9-11 Ag '58. (MIRA 11:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut l'na.
(Flax) (Agricultural machinery)

SUVOROV, V., inzhener-polkovnik, kand. tekhn. nauk.

Processes taking place in an engine when the crankshaft is turned
in the opposite direction. Tankist no.5:49-52 My '56. (MIRA 11:3)
(Tanks (Military science)--Engines)

SUVOROV, V., podpolkovnik

Rostrum for skilled operators. Starsh.-serzh. no.6:24-25 Je '61.
(Tanks (Military science))

SUVOROV, V., podpolkovnik

In an advanced air unit. Starsh.-serzh.

no.7:4 J1 '61.
(MIRA 14:9)

(Airplanes, Military--Maintenance and repair)

SUVOROV, V., podpolkovnik

Master of the silk cupola. Starsh.-serezh. no.12:22-23 D '61.
(MIRA 15:3)

(Parachute troops)

SUVOROV, V., podpolkovnik

Saving an airplane. Starsh-serzh. no.1:18 Ja '62. (MIRA 15:4)
(Airplanes, Military)

SUVOROV, V., podpolkovnik

In a rocket unit of Communist Youth Leaguers. Starsh.-serzh.
no.2:22-23 F '62. (MIRA 15:4)
(Rockets (Ordnance))

SUVOROV, V. podpolkovnik

Seven thousand hours.... Kryl. rod. 16 no.6:7 Je '65.
(MIRA 18:10)

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001654020012-0

SUVOROV, V., podpolkovnik

Rockat fire. Vcen. znan, 41 no.8;10 Ag '65.

(MIRA 18:7)

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001654020012-0"

SUVOROV, V., podpolkovnik

Pilots of an excellent flight. Kryl. rod. 16 no.9:17 S '65.
(MIRA 18:12)

SUVOROV, V., podpolkovnik

Rocket carriers go

into the night. Kryl^o, red. 16 no. 12:7 D 165.
(MIRA 18:12)

L 45839-66	
ACC NR: AP6025811 (A) SOURCE CODE: UR/0004/66/000/007/0008/0009	
AUTHOR: Suvorov, V. (Lieutenant Colonel)	
ORG: none	
TITLE: From the sky to battle [The training of parachutists]	
SOURCE: Znaniye-sila, no. 7, 1966, 8-9	
TOPIC TAGS: military training, parachutist, parachute training, descender	
ABSTRACT: The training of parachutists is described. Illustrations show training in building slips, parachutists ascending the cable ladder, landing operations, looping, and folding parachutes. Equipment, landing procedures, and hazards involved are discussed. The author emphasizes the importance of accurate timing, good judgement, and speed to succeed in battle. Orig. art. has: 9 photos.	
[FM]	
SUB CODE: 15/ SUBM DATE: none/	
Card 1/1 <i>Jo</i>	

PAVLOV, I. M.; MEKHED, G. N., kand. tekhn. nauk; SUVOROV, V. A.

Production and use of iron-aluminum alloys abroad. Biul. tekhn.-
ekon. inform. Gos. nauch.-issl. inst. nauch. i tekhn. inform.
no. 12:75-76 '62.
(MIRA 16:1)

1. Chlen-korrespondent AN SSSR (for Pavlov).

(Iron-aluminum alloys)

L 13 52-05 CAT(a)/EAT(m)/EWA(d)/EWG(v)/EWP(t); SWP(k), SWH(h)/EWP(b)/EWP(l)
RECEIVED - 1978 MAR 27 1980
ACCESSION NR: AT4047718

S 0000/64/000/000/0019/0021

AUTHOR: Pavlov, I.M., (Corresponding member AN SSSR), Mekhed, G.M., Ganin, N.P.,
Sivagov, V.A., Vinogradov, V.N.

TITLE: Rolling mill for metals and alloys of low plasticity

SOURCE: AN SSSR / Institut Metallurgii Plasticheskaya deformatsiya metallov (Plastic deformation of metals). Moscow: Metallurgizdat, 1961. 121 p.

TOPIC WORDS: rolling mill heating, rolling mill cooling, rolling mill design

ABSTRACT: Electrical, high-strength, heat resistant, acid-proof and other special qualities of metals must have high-quality surfaces; during working under pressure in rolling mills, they undergo thermal, mechanical & working. The machinery employed must therefore be able to withstand such influences. This work gives a brief account of technological tool heating and cooling. The main methods of heating are electrical resistive heating, gas heating, induction heating, and heating by special gases. The main methods of cooling are water cooling, air cooling, and cooling by special gases. The gas coolants (other than air) are obtained by electrical resistors or by induction coils. Of these methods the simplest is gas heating. Besides heating, cooling is of great importance. The rolls are cooled either by pouring water, blowing air,

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L 11 058-65

ACCESSION NR: AT4047718

4

steam or water, or by a flow of water through the roll. A special 250 rolling mill was used by the authors for testing. The mill had two gas burners located 40 mm apart. The length of the heated part of the roll was 120 mm, while the diameter was 240 mm. The heating system was of the "infrared" type. The rolls had two grooves at both sides of the working part for workpiece support. The burner design made it possible adjustment of heating intensity both separately and simultaneously. Thermocouples were placed on the mill to measure the temperature of the working surfaces of the rolls. Mechanics A. Ye. Borisov and S. A. Medvedev and Senior laboratory assistant S. L. Vasyukov took part in the work." Original art. has 2 figures.

ASSOCIATION: Institut metallurgii AN SSSR (Institute of Metallurgy, AN SSSR)

SUBMITTED: 01Jul64

ENCL: 00

SUB CODE: MM, IE

NO REF SOV: 013

OTHER: 000

Card 2/2

~~SECRET//
SAC//
REF ID: A654020012-0~~

FILE NUMBER:

ACCESSION NR: AT4047719

S.0000/64/000/000/0022/0027

AUTHOR: Pavlov, I. M. (Corresponding member AN SSSR), Mekhed, G. N., Suvorov,
V. A.

TITLE: Methods of heating rolling mill rolls

SOURCE: AN SSSR. Institut metallurgii. Plasticheskaya deformatsiya metallov
(Plastic deformation of metals). Moscow, Izd-vo Nauka, 1964, 22-27

TOPIC TAGS: rolling mill roll heating rolling mill design

ABSTRACT: In a general review of the literature, the authors point out that rolling mill rolls for both hot and cold rolling are heated by plastic deformation of the metal, 90% of the work utilized for metal deformation being transformed into heat, of which 6% heats the rolls. The roll temperature thus depends on the rolled metal temperature, rolling rate, compression, duration of contact of the metal and roll and the coefficient of friction. Sometimes, artificial heating is also used. The roll temperature for hot rolling reaches 500°C with some rolling and 300°C with, among other cooling, while for cold rolling with some rolling the roll temperature reaches 150°C. Due to unequal heating along their length, the rolls become barrel-shaped, so that to obtain uniform sheets

Card 1/3

L 13059-65
ACCESSION NR: AT4047719

the roll shape must be changed in successive mills. The heating of rolls may be divided into three stages: heating of the roll surface with a cold core, uniform heating of the roll across the entire section, and roll cooling. Sheets are usually rolled with cast iron rolls at temperatures up to 450°C. At higher temperatures, the rolls are heated uniformly at temperatures up to 1000°C. This causes considerable internal stress. Several methods have been proposed to eliminate the internal stress. These methods include annealing, quenching, and tempering. The oldest method of heating rolls was gas heating. In 1925, the first gas heating apparatus began to be used. In 1930, the first electrical heating apparatus was used, and later this method was substituted for gas heating either in the rolling mill or in a special stand. The exhaust gases of a heating furnace can be used for heating the rolls of a four-mill. Electrical resistance can also be used for heating. In 1936, N. D. Zhukov proposed using a heating unit for rolling mills with 655 mm diam. rolls. The heating current is 11 A/mm. Induced heating of rolls is now being used in America. It consists of coils which are wound around the rolls in a special housing. N. V. Zhukov in USA used a coil which surrounds the rolls. During 4 hours, 750 mm diam. rolls are heated to 450°C at 1000 amperes with 10-12 solenoid turns. Oval induction coils are used in factories in the district near the Ural Mountains, but cylindrical

Card 2/3

L 13059-65
ACCESSION NR: AT4047719

induction coils are cheaper. Pre-heating of rolls outside the rolling mill makes it possible to increase production by 450-600 tons/day. Water or steam is also used, as well as the older method of indirect heating. An open fire was used, and it is also possible to use gas or oil. The cost of fuel is low. The choice depends on what fuel is available.

ASSOCIATION: Institut metallurgii AN SSSR (Institute of Metallurgy, AN SSSR)

SUBMITTED: 01.01.64

ENCL: 00

SUB CODE: MM, IE

NO REF SOV: 025

OTHER: 000

Card 3/3

LITERATURE INDEXED IN THE USSR INDEX OF SCIENTIFIC PAPERS (Russian Index of Scientific Papers) / TINDBOL'SHAKA / Pf-14/P-14
LITERATURE INDEXED IN THE USSR INDEX OF SCIENTIFIC PAPERS (Russian Index of Scientific Papers) / TINDBOL'SHAKA / Pf-14/P-14

ACCESSION NO. A-136-0140

REF ID: A65/000/001/0136/0140

31

AUTHOR: Pavlov, I. M. (Moscow); Mekhed, G.N. (Moscow); Suvorov, V.A. (Moscow)

TITLE: Mechanical properties of binary iron-aluminum alloys

SOURCE: AN SSSR. Izvestiya. Metally, no. 1, 1965, 136-140

TOPIC TAGS: alloy mechanical property, binary alloy, iron alloy, aluminum alloy,
alloy plasticity

ABSTRACT: This paper is devoted to a study of the temperature dependence of the mechanical properties of Fe-Al alloys containing 8, 11.5, 14, and 16.5% Al and designated Yu8, Yu11.5, Yu14, and Yu16, respectively. The alloys were prepared in a magnetite crucible by fusion in a vacuum induction furnace of the TsNIIChM experimental plant, using armco iron and A7000 aluminum. All the alloys except Yu8 had a low technological plasticity ($\leq 5\%$) at room temperature. The strength of all the alloys was between 40 and 80 kg/mm². It was found that as the temperature rose from 25 to 300-400°C, after a certain rise, a sharp rise in the ultimate strength was observed, particularly in alloys Yu14 and Yu16. The maximum strength in Yu8 and Yu12 was observed at 300°C, and in Yu14 and Yu16, at 400°C; the greatest

Card 1/2

L 45459-65

ACCESSION NR: AP5009269

O
A graph was displayed by alloy Yul+, which had an Fe₃Al superstructure. An increase in the plasticity of the material with increasing temperature promotes an increase in strength. The decline in the strength of all the alloys studied, however, is due to the beginning process of disorganization and collapse of the crystal lattice. The decrease in strength in this case corresponds to the compression of the crystal lattice. The plasticity per unit of Al₃Al₂ is the most important value of the elongation per unit of Al₃Al₂ lattice.

ASSOCIATION: None

SUBMITTED: 26Mar64

ENCL: 00

SUB CODE: MM

NO REF Sov: 005

OTHER: 013

Card 2/2

PAVLOV, I.M.; MEKHED, G.N.; SUVOROV, V.A.

Classifying the processes of working metals by pressure.
TSvet. met. 38 no.2:69 F '65. (KIRA 18:3)

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TITLE: Investigation of the hot-rolling process of iron-aluminum alloys 16 27 ~7

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ABSTRACT: The specific rolling pressure of iron-aluminum alloys Yu8, Yu12, Yu14, and Yu16 (containing 7.95, 11.55, 14.10 and 16.25% Al by weight respectively) was measured as a function of rolling temperature (300--800C) and compared with the rolling pressure for Armco iron. Specimens (4 x 20 x 100 mm) were cut from hot-rolled (1000--1050C) sheet and rolled on a duo 240 rolling mill at 0.63 m/sec in three passes (10% deformation during each pass). The results are shown in Fig. 1. It was found that the specific rolling pressure increases with aluminum content and decreases with rolling temperature. During the rolling of aluminum alloys having long-range order, no significant difference in rolling pressure was found between rolling above and below the order-disorder transition temperature.

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